



SEQUENCE LISTING

<110> THOMPSON, Catherine C.

<120> HUMAN HAIRLESS GENE AND PROTEIN

<130> Thompson-20263/0243435

<140> US 09/not assigned

<141> 1999-04-07

<150> US 60/080,888

<151> 1998-04-07

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 Phe Pro Gln Gly Pro Lys Asp Met Leu Pro Leu Val Glu Gly Glu Gly
 65 70 75 80
 Pro Gln Asn Gly Glu Arg Lys Val Asn Trp Leu Gly Ser Lys Glu Gly
 85 90 95
 Leu Arg Trp Lys Glu Ala Met Leu Thr His Pro Leu Ala Phe Cys Gly
 100 105 110
 Pro Ala Cys Pro Pro Arg Cys Gly Pro Leu Met Pro Glu His Ser Gly
 115 120 125
 Gly His Leu Lys Ser Asp Pro Val Ala Phe Arg Pro Trp His Cys Pro
 130 135 140
 Phe Leu Leu Glu Thr Lys Ile Leu Glu Arg Ala Pro Phe Trp Val Pro
 145 150 155 160
 Thr Cys Leu Pro Pro Tyr Leu Val Ser Gly Leu Pro Pro Glu His Pro
 165 170 175

Cys	Asp	Trp	Pro	Leu	Thr	Pro	His	Pro	Trp	Val	Tyr	Ser	Gly	Gly	Gln	
			180					185					190			
Pro	Lys	Val	Pro	Ser	Ala	Phe	Ser	Leu	Gly	Ser	Lys	Gly	Phe	Tyr	Tyr	
		195					200					205				
Lys	Asp	Pro	Ser	Ile	Pro	Arg	Leu	Ala	Lys	Glu	Pro	Leu	Ala	Ala	Ala	
	210					215					220					
Glu	Pro	Gly	Leu	Phe	Gly	Leu	Asn	Ser	Gly	Gly	His	Leu	Gln	Arg	Ala	
225					230					235					240	
Gly	Glu	Ala	Glu	Arg	Pro	Ser	Leu	His	Gln	Arg	Asp	Gly	Glu	Met	Gly	
				245					250					255		
Ala	Gly	Arg	Gln	Gln	Asn	Pro	Cys	Pro	Leu	Phe	Leu	Gly	Gln	Pro	Asp	
			260				265						270			
Thr	Val	Pro	Trp	Thr	Ser	Trp	Pro	Ala	Cys	Pro	Pro	Gly	Leu	Val	His	
		275					280					285				
Thr	Leu	Gly	Asn	Val	Trp	Ala	Gly	Pro	Gly	Asp	Gly	Asn	Leu	Gly	Tyr	
	290					295				300						
Gln	Leu	Gly	Pro	Pro	Ala	Thr	Pro	Arg	Cys	Pro	Ser	Pro	Glu	Pro	Pro	
305					310					315					320	
Val	Thr	Gln	Arg	Gly	Cys	Cys	Ser	Ser	Tyr	Pro	Pro	Thr	Lys	Gly	Gly	
				325					330					335		
Gly	Leu	Gly	Pro	Cys	Gly	Lys	Cys	Gln	Glu	Gly	Leu	Glu	Gly	Gly	Ala	
			340					345					350			
Ser	Gly	Ala	Ser	Glu	Pro	Ser	Glu	Glu	Val	Asn	Lys	Ala	Ser	Gly	Pro	
		355					360					365				
Arg	Ala	Cys	Pro	Pro	Ser	His	His	Thr	Lys	Leu	Lys	Lys	Thr	Trp	Leu	
		370				375						380				
Thr	Arg	His	Ser	Glu	Gln	Phe	Glu	Cys	Pro	Arg	Gly	Cys	Pro	Glu	Val	
385					390					395					400	
Glu	Glu	Arg	Pro	Val	Ala	Arg	Leu	Arg	Ala	Leu	Lys	Arg	Ala	Gly	Ser	
				405					410					415		
Pro	Glu	Val	Gln	Gly	Ala	Met	Gly	Ser	Pro	Ala	Pro	Lys	Arg	Pro	Pro	
			420					425					430			
Asp	Pro	Phe	Pro	Gly	Thr	Ala	Glu	Gln	Gly	Ala	Gly	Gly	Trp	Gln	Glu	
		435					440					445				
Val	Arg	Asp	Thr	Ser	Ile	Gly	Asn	Lys	Asp	Val	Asp	Ser	Gly	Gln	His	
		450				455					460					
Asp	Glu	Gln	Lys	Gly	Pro	Gln	Asp	Gly	Gln	Ala	Ser	Leu	Gln	Asp	Pro	
465					470					475					480	
Gly	Leu	Gln	Asp	Ile	Pro	Cys	Leu	Ala	Leu	Pro	Ala	Lys	Leu	Ala	Gln	
				485					490					495		

Cys	Gln	Ser	Cys	Ala	Gln	Ala	Ala	Gly	Glu	Gly	Gly	Gly	His	Ala	Cys	
			500					505					510			
His	Ser	Gln	Gln	Val	Arg	Arg	Ser	Pro	Leu	Gly	Gly	Glu	Leu	Gln	Gln	
		515					520					525				
Glu	Glu	Asp	Thr	Ala	Thr	Asn	Ser	Ser	Ser	Glu	Glu	Gly	Pro	Gly	Ser	
	530					535					540					
Gly	Pro	Asp	Ser	Arg	Leu	Ser	Thr	Gly	Leu	Ala	Lys	His	Leu	Leu	Ser	
545					550					555					560	
Gly	Leu	Gly	Asp	Arg	Leu	Cys	Arg	Leu	Leu	Arg	Arg	Glu	Arg	Glu	Ala	
				565					570					575		
Leu	Ala	Trp	Ala	Gln	Arg	Glu	Gly	Gln	Gly	Pro	Ala	Val	Thr	Glu	Asp	
			580					585					590			
Ser	Pro	Gly	Ile	Pro	Arg	Cys	Cys	Ser	Arg	Cys	His	His	Gly	Leu	Phe	
		595					600					605				
Asn	Thr	His	Trp	Arg	Cys	Pro	Arg	Cys	Ser	His	Arg	Leu	Cys	Val	Ala	
	610					615					620					
Cys	Gly	Arg	Val	Ala	Gly	Thr	Gly	Arg	Ala	Arg	Glu	Lys	Ala	Gly	Phe	
625					630					635					640	
Gln	Glu	Gln	Ser	Ala	Glu	Glu	Cys	Thr	Gln	Glu	Ala	Gly	His	Ala	Ala	
				645					650					655		
Cys	Ser	Leu	Met	Leu	Thr	Gln	Phe	Val	Ser	Ser	Gln	Ala	Leu	Ala	Glu	
			660					665					670			
Leu	Ser	Thr	Ala	Met	His	Gln	Val	Trp	Val	Lys	Phe	Asp	Ile	Arg	Gly	
		675					680					685				
His	Cys	Pro	Cys	Gln	Ala	Asp	Ala	Arg	Val	Trp	Ala	Pro	Gly	Asp	Ala	
	690					695					700					
Gly	Gln	Gln	Lys	Glu	Ser	Thr	Gln	Lys	Thr	Pro	Pro	Thr	Pro	Gln	Pro	
705					710					715					720	
Ser	Cys	Asn	Gly	Asp	Thr	His	Arg	Thr	Lys	Ser	Ile	Lys	Glu	Glu	Thr	
				725					730					735		
Pro	Asp	Ser	Ala	Glu	Thr	Pro	Ala	Glu	Asp	Arg	Ala	Gly	Arg	Gly	Pro	
			740					745					750			
Leu	Pro	Cys	Pro	Ser	Leu	Cys	Glu	Leu	Leu	Ala	Ser	Thr	Ala	Val	Lys	
		755					760					765				
Leu	Cys	Leu	Gly	His	Glu	Arg	Ile	His	Met	Ala	Phe	Ala	Pro	Val	Thr	
	770					775					780					
Pro	Ala	Leu	Pro	Ser	Asp	Asp	Arg	Ile	Thr	Asn	Ile	Leu	Asp	Ser	Ile	
785					790					795					800	
Ile	Ala	Gln	Val	Val	Glu	Arg	Lys	Ile	Gln	Glu	Lys	Ala	Leu	Gly	Pro	
				805					810					815		

Gly	Leu	Arg	Ala	Gly	Pro	Gly	Leu	Arg	Lys	Gly	Leu	Gly	Leu	Pro	Leu	820	825	830
Ser	Pro	Val	Arg	Pro	Arg	Leu	Pro	Pro	Pro	Gly	Ala	Leu	Leu	Trp	Leu	835	840	845
Gln	Glu	Pro	Gln	Pro	Cys	Pro	Arg	Arg	Gly	Phe	His	Leu	Phe	Gln	Glu	850	855	860
His	Trp	Arg	Gln	Gly	Gln	Pro	Val	Leu	Val	Ser	Gly	Ile	Gln	Arg	Thr	865	870	875
Leu	Gln	Gly	Asn	Leu	Trp	Gly	Thr	Glu	Ala	Leu	Gly	Ala	Leu	Gly	Gly	885	890	895
Gln	Val	Gln	Ala	Leu	Ser	Pro	Leu	Gly	Pro	Pro	Gln	Pro	Ser	Ser	Leu	900	905	910
Gly	Ser	Thr	Thr	Phe	Trp	Glu	Gly	Phe	Ser	Trp	Pro	Glu	Leu	Arg	Pro	915	920	925
Lys	Ser	Asp	Glu	Gly	Ser	Val	Leu	Leu	Leu	His	Arg	Ala	Leu	Gly	Asp	930	935	940
Glu	Asp	Thr	Ser	Arg	Val	Glu	Asn	Leu	Ala	Ala	Ser	Leu	Pro	Leu	Pro	945	950	955
Glu	Tyr	Cys	Ala	Leu	His	Gly	Lys	Leu	Asn	Leu	Ala	Ser	Tyr	Leu	Pro	965	970	975
Pro	Gly	Leu	Ala	Leu	Arg	Pro	Leu	Glu	Pro	Gln	Leu	Trp	Ala	Ala	Tyr	980	985	990
Gly	Val	Ser	Pro	His	Arg	Gly	His	Leu	Gly	Thr	Lys	Asn	Leu	Cys	Val	995	1000	1005
Glu	Val	Ala	Asp	Leu	Val	Ser	Ile	Leu	Val	His	Ala	Asp	Thr	Pro	Leu	1010	1015	1020
Pro	Ala	Trp	His	Arg	Ala	Gln	Lys	Asp	Phe	Leu	Ser	Gly	Leu	Asp	Gly	1025	1030	1035
Glu	Gly	Leu	Trp	Ser	Pro	Gly	Ser	Gln	Val	Ser	Thr	Val	Trp	His	Val	1045	1050	1055
Phe	Arg	Ala	Gln	Asp	Ala	Gln	Arg	Ile	Arg	Arg	Phe	Leu	Gln	Met	Val	1060	1065	1070
Cys	Pro	Ala	Gly	Ala	Gly	Ala	Leu	Glu	Pro	Gly	Ala	Pro	Gly	Ser	Cys	1075	1080	1085
Tyr	Leu	Asp	Ala	Gly	Leu	Arg	Arg	Arg	Leu	Arg	Glu	Glu	Trp	Gly	Val	1090	1095	1100
Ser	Cys	Trp	Thr	Leu	Leu	Gln	Ala	Pro	Gly	Glu	Ala	Val	Leu	Val	Pro	1105	1110	1115
Ala	Gly	Ala	Pro	His	Gln	Val	Gln	Gly	Leu	Val	Ser	Thr	Val	Ser	Val	1125	1130	1135

Thr Gln His Phe Leu Ser Pro Glu Thr Ser Ala Leu Ser Ala Gln Leu
1140 1145 1150

Cys His Gln Gly Pro Ser Leu Pro Pro Asp Cys His Leu Leu Tyr Ala
1155 1160 1165

Gln Met Asp Trp Ala Val Phe Gln Ala Val Lys Val Ala Val Gly Thr
1170 1175 1180

Leu Gln Glu Ala Lys
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Leu Gly Glu Pro His Glu Gly Arg Arg Val Met Glu Ser Met Pro Ser
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Phe Leu Lys Asp Thr Pro Ala Trp Glu Lys Thr Ala Pro Val Asn Gly
35 40 45

Ile Val Gly Gln Glu Pro Gly Thr Ser Pro Gln Asp Gly Leu His His
50 55 60

Gly Ala Leu Cys Leu Gly Glu Pro Val Pro Phe Trp Arg Gly Val Leu
65 70 75 80

Ser Ala Pro Asp Ser Trp Leu Pro Pro Gly Phe Leu Gln Gly Pro Lys
85 90 95

Asp Thr Leu Ser Val Val Glu Gly Glu Gly Ser Arg Asn Gly Glu Arg
100 105 110

Lys Ala Asn Trp Leu Gly Ser Lys Glu Gly Leu Arg Trp Lys Glu Ala
115 120 125

Met Leu Ala His Pro Leu Ala Phe Cys Gly Pro Ala Cys Pro Pro Arg
130 135 140

Tyr Gly Pro Leu Ile Pro Glu His Ser Ser Gly His Pro Lys Ser Asp
145 150 155 160

Pro Val Ala Phe Arg Pro Leu His Cys Pro Phe Leu Leu Glu Thr Lys
165 170 175

Ile Leu Glu Arg Ala Pro Phe Trp Val Pro Thr Cys Leu Pro Pro Tyr
180 185 190

Leu Met Ser Ser Leu Pro Pro Glu Arg Ser Tyr Asp Trp Pro Leu Ala
195 200 205

Pro Ser Pro Trp Val Tyr Ser Gly Ser Gln Pro Lys Val Pro Ser Ala
210 215 220

Phe Ser Leu Gly Ser Lys Gly Phe Tyr His Lys Asp Pro Asn Ile Leu
225 230 235 240
Arg Pro Ala Lys Glu Pro Leu Ala Ala Ser Glu Ser Gly Met Leu Gly
245 250 255
Leu Ala Pro Gly Gly His Leu Gln Gln Ala Cys Asp Ala Glu Gly Pro
260 265 270
Ser Leu His Gln Arg Asp Gly Glu Thr Gly Ala Gly Arg Gln Gln Asn
275 280 285
Leu Cys Pro Val Phe Leu Gly Tyr Pro Asp Thr Val Pro Arg Thr Pro
290 295 300
Trp Pro Ser Cys Pro Pro Gly Leu Val His Thr Leu Gly Asn Val Trp
305 310 315 320
Ala Gly Pro Gly Ser Asn Ser Phe Gly Tyr Gln Leu Gly Pro Pro Val
325 330 335
Thr Pro Arg Cys Pro Ser Pro Gly Pro Pro Thr Pro Pro Gly Gly Cys
340 345 350
Cys Ser Ser His Leu Pro Ala Arg Glu Gly Asp Pro Gly Pro Cys Arg
355 360 365
Lys Cys Gln Asp Ser Pro Glu Gly Ser Ser Ser Gly Pro Gly Glu Ser
370 375 380
Ser Glu Glu Arg Asn Lys Ala Gly Ser Arg Ala Ser Pro Pro Ser His
385 390 395 400
His Thr Lys Leu Lys Lys Thr Trp Leu Thr Arg His Ser Glu Gln Phe
405 410 415
Glu Cys Pro Gly Gly Cys Pro Gly Lys Gly Glu Ser Pro Ala Thr Gly
420 425 430
Leu Arg Ala Leu Lys Arg Ala Gly Ser Pro Glu Val Gln Gly Ala Arg
435 440 445
Gly Pro Ala Pro Lys Arg Pro Ser His Thr Phe Pro Gly Thr Gly Arg
450 455 460
Gln Gly Ala Arg Ala Trp Gln Glu Thr Pro Glu Thr Ser Thr Gly Ser
465 470 475 480
Lys Ala Glu Ala Gln Gln Gln Glu Glu Gln Arg Gly Pro Arg Asp Gly
485 490 495
Arg Ile Arg Leu Arg Glu Ser Arg Leu Glu Asp Thr Ser Cys Gln His
500 505 510
His Leu Ala Gly Val Thr Gln Cys Pro Ser Cys Val Gln Ala Ala Gly
515 520 525
Glu Val Glu Ile Leu Thr Ser His Ser Gln Lys Ser His Lys Leu Pro
530 535 540

Leu Glu Glu Lys Pro Leu Glu Glu Asp Ser Cys Ala Thr Ser Glu Glu
 545 550 555 560
 Gly Gly Gly Ser Ser Pro Glu Ala Ser Ile Asn Lys Gly Leu Ala Lys
 565 570 575
 His Leu Leu Ser Gly Leu Gly Asp Arg Leu Cys Arg Leu Leu Arg Lys
 580 585 590
 Glu Arg Glu Ala Leu Ala Trp Ala Gln Arg Glu Gly Gln Gly Pro Ala
 595 600 605
 Met Thr Glu Asp Ser Pro Gly Ile Pro His Cys Cys Ser Arg Cys His
 610 615 620
 His Gly Leu Phe Asn Thr His Trp Arg Cys Ser His Cys Ser His Arg
 625 630 635 640
 Leu Cys Val Ala Cys Gly Arg Ile Ala Gly Ala Gly Lys Asn Arg Glu
 645 650 655
 Lys Thr Gly Ser Arg Glu Gln Arg Thr Asp Asp Cys Ala Gln Glu Ala
 660 665 670
 Gly His Ala Ala Cys Ser Leu Ile Leu Thr Gln Phe Val Ser Ser Gln
 675 680 685
 Ala Leu Ala Glu Leu Ser Thr Val Met His Gln Val Trp Ala Lys Phe
 690 695 700
 Asp Ile Arg Gly His Cys Phe Cys Gln Val Asp Ala Arg Val Trp Ala
 705 710 715 720
 Pro Gly Asp Gly Gly Gln Gln Lys Glu Pro Thr Glu Lys Thr Pro Pro
 725 730 735
 Ala Pro Gln Leu Ser Cys Asn Gly Asp Ser Asn Arg Thr Lys Asp Ile
 740 745 750
 Lys Glu Glu Thr Pro Asp Ser Thr Glu Ser Pro Ala Glu Asp Arg Ala
 755 760 765
 Gly Arg Ser Pro Leu Pro Cys Pro Ser Leu Cys Glu Leu Leu Ala Ser
 770 775 780
 Thr Ala Val Lys Leu Cys Leu Gly His Glu Arg Ile His Met Ala Phe
 785 790 795 800
 Ala Pro Val Thr Pro Ala Leu Pro Ser Asp Asp Arg Ile Thr Asn Ile
 805 810 815
 Leu Asp Ser Ile Ile Ala Gln Val Val Glu Arg Lys Ile Gln Glu Lys
 820 825 830
 Ala Leu Gly Pro Gly Leu Arg Ala Gly Ser Gly Leu Arg Lys Gly Leu
 835 840 845
 Ser Leu Pro Leu Ser Pro Val Arg Thr Gln Leu Ser Pro Pro Gly Ala
 850 855 860

Leu	Leu	Trp	Leu	Gln	Glu	Pro	Arg	Pro	Lys	His	Gly	Phe	Arg	Leu	Phe	865	870	875	880
Gln	Glu	His	Trp	Arg	Gln	Gly	Gln	Pro	Val	Leu	Val	Ser	Gly	Ile	Gln	885	890	895	
Lys	Thr	Leu	Arg	Leu	Ser	Leu	Trp	Gly	Met	Glu	Ala	Leu	Gly	Thr	Leu	900	905	910	
Gly	Gly	Gln	Val	Gln	Thr	Leu	Thr	Ala	Leu	Gly	Pro	Pro	Gln	Pro	Thr	915	920	925	
Ser	Leu	Asp	Ser	Thr	Ala	Phe	Trp	Lys	Gly	Phe	Ser	His	Pro	Glu	Ala	930	935	940	
Arg	Pro	Lys	Leu	Asp	Glu	Gly	Ser	Val	Leu	Leu	Leu	His	Arg	Pro	Leu	945	950	955	960
Gly	Asp	Lys	Asp	Glu	Ser	Arg	Val	Glu	Asn	Leu	Ala	Ser	Ser	Leu	Pro	965	970	975	
Leu	Pro	Glu	Tyr	Cys	Ala	His	Gln	Gly	Lys	Leu	Asn	Leu	Ala	Ser	Tyr	980	985	990	
Leu	Pro	Leu	Gly	Leu	Thr	Leu	His	Pro	Leu	Glu	Pro	Gln	Leu	Trp	Ala	995	1000	1005	
Ala	Tyr	Gly	Val	Asn	Ser	His	Arg	Gly	His	Leu	Gly	Thr	Lys	Asn	Leu	1010	1015	1020	
Cys	Val	Glu	Val	Ser	Asp	Leu	Ile	Ser	Ile	Leu	Val	His	Ala	Glu	Ala	1025	1030	1035	1040
Gln	Leu	Pro	Pro	Trp	Tyr	Arg	Ala	Gln	Lys	Asp	Phe	Leu	Ser	Gly	Leu	1045	1050	1055	
Asp	Gly	Glu	Gly	Leu	Trp	Ser	Pro	Gly	Ser	Gln	Thr	Ser	Thr	Val	Trp	1060	1065	1070	
His	Val	Phe	Arg	Ala	Gln	Asp	Ala	Gln	Arg	Ile	Arg	Arg	Phe	Leu	Gln	1075	1080	1085	
Met	Val	Cys	Pro	Ala	Gly	Ala	Gly	Thr	Leu	Glu	Pro	Gly	Ala	Pro	Gly	1090	1095	1100	
Ser	Cys	Tyr	Leu	Asp	Ser	Gly	Leu	Arg	Arg	Arg	Leu	Arg	Glu	Glu	Trp	1105	1110	1115	1120
Gly	Val	Ser	Cys	Trp	Thr	Leu	Leu	Gln	Ala	Pro	Gly	Glu	Ala	Val	Leu	1125	1130	1135	
Val	Pro	Ala	Gly	Ala	Pro	His	Gln	Val	Gln	Gly	Leu	Val	Ser	Thr	Ile	1140	1145	1150	
Ser	Val	Thr	Gln	His	Phe	Leu	Ser	Pro	Glu	Thr	Ser	Ala	Leu	Ser	Ala	1155	1160	1165	
Gln	Leu	Cys	His	Gln	Gly	Ala	Ser	Leu	Pro	Pro	Asp	His	Arg	Met	Leu	1170	1175	1180	

Tyr Ala Gln Met Asp Arg Ala Val Phe Gln Ala Val Lys Val Ala Val
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Gly Thr Leu Gln Glu Ala Lys
 1205

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 Thr Ala Pro Val Asn Gly Ile Val Gly Gln Glu Pro Gly Thr Ser Pro
 20 25 30
 Gln Asp Gly Leu Arg His Gly Ala Leu Cys Leu Gly Glu Pro Ala Pro
 35 40 45
 Phe Trp Arg Gly Val Leu Ser Thr Pro Asp Ser Trp Leu Pro Pro Gly
 50 55 60
 Phe Leu Gln Gly Pro Lys Asp Thr Leu Ser Leu Val Glu Gly Glu Gly
 65 70 75 80
 Pro Arg Asn Gly Glu Arg Lys Gly Ser Trp Leu Gly Gly Lys Glu Gly
 85 90 95
 Leu Arg Trp Lys Glu Ala Met Leu Ala His Pro Leu Ala Phe Cys Gly
 100 105 110
 Pro Ala Cys Pro Pro Arg Tyr Gly Pro Leu Ile Pro Glu His Ser Gly
 115 120 125
 Gly His Pro Lys Ser Asp Pro Val Ala Phe Arg Pro Leu His Cys Pro
 130 135 140
 Phe Leu Leu Glu Thr Lys Ile Leu Glu Arg Ala Pro Phe Trp Val Pro
 145 150 155 160
 Thr Cys Leu Pro Pro Tyr Leu Met Ser Ser Leu Pro Pro Glu Arg Pro
 165 170 175
 Tyr Asp Trp Pro Leu Ala Pro Asn Pro Trp Val Tyr Ser Gly Ser Gln
 180 185 190
 Pro Lys Val Pro Ser Ala Phe Gly Leu Gly Ser Lys Gly Phe Tyr His
 195 200 205
 Lys Asp Pro Asn Ile Leu Arg Pro Ala Lys Glu Pro Leu Ala Glu Ser
 210 215 220
 Gly Met Leu Gly Leu Ala Pro Gly Gly His Leu Gln Gln Ala Cys Glu
 225 230 235 240
 Ser Glu Gly Pro Ser Leu His Gln Arg Asp Gly Glu Thr Gly Ala Gly
 245 250 255

Arg	Gln	Gln	Asn	Leu	Cys	Pro	Val	Phe	Leu	Gly	Tyr	Pro	Asp	Thr	Val	
			260					265					270			
Pro	Arg	Ala	Pro	Trp	Pro	Ser	Cys	Pro	Pro	Gly	Leu	Val	His	Ser	Leu	
		275					280					285				
Gly	Asn	Ile	Trp	Ala	Gly	Pro	Gly	Ser	Asn	Ser	Leu	Gly	Tyr	Gln	Leu	
	290					295					300					
Gly	Pro	Pro	Ala	Thr	Pro	Arg	Cys	Pro	Ser	Pro	Gly	Pro	Pro	Thr	Pro	
305					310					315					320	
Pro	Gly	Gly	Cys	Cys	Ser	Ser	His	Leu	Pro	Ala	Arg	Glu	Gly	Asp	Leu	
				325					330					335		
Gly	Pro	Cys	Arg	Lys	Cys	Gln	Asp	Ser	Pro	Glu	Gly	Gly	Ser	Ser	Gly	
			340					345					350			
Pro	Gly	Glu	Ser	Ser	Glu	Glu	Arg	Asn	Lys	Ala	Asp	Ser	Arg	Ala	Cys	
		355					360					365				
Pro	Pro	Ser	His	His	Thr	Lys	Leu	Lys	Lys	Thr	Trp	Leu	Thr	Arg	His	
	370					375					380					
Ser	Glu	Gln	Phe	Glu	Cys	Pro	Gly	Gly	Cys	Ser	Gly	Lys	Glu	Glu	Ser	
385					390					395					400	
Ser	Ala	Thr	Gly	Leu	Arg	Ala	Leu	Lys	Arg	Ala	Gly	Ser	Pro	Glu	Val	
				405					410					415		
Gln	Gly	Ala	Ser	Arg	Gly	Pro	Ala	Pro	Lys	Arg	Pro	Ser	His	Pro	Phe	
			420					425					430			
Pro	Gly	Thr	Gly	Arg	Gln	Gly	Ala	Arg	Ala	Trp	Gln	Glu	Thr	Pro	Glu	
		435					440					445				
Thr	Ile	Ile	Gly	Ser	Lys	Ala	Glu	Ala	Glu	Gln	Gln	Glu	Glu	Gln	Arg	
	450					455					460					
Gly	Pro	Arg	Asp	Gly	Arg	Ile	Arg	Leu	Gln	Glu	Ser	Arg	Leu	Val	Asp	
465					470					475					480	
Thr	Ser	Cys	Gln	His	His	Leu	Ala	Gly	Val	Thr	Gln	Cys	Gln	Ser	Cys	
				485					490					495		
Val	Gln	Ala	Ala	Gly	Glu	Val	Gly	Val	Leu	Thr	Gly	His	Ser	Gln	Lys	
			500					505					510			
Ser	Arg	Arg	Ser	Pro	Leu	Glu	Glu	Lys	Gln	Leu	Glu	Glu	Glu	Asp	Ser	
		515					520					525				
Ser	Ala	Thr	Ser	Glu	Glu	Gly	Gly	Gly	Gly	Pro	Gly	Pro	Glu	Ala	Ser	
	530					535				540						
Leu	Asn	Lys	Gly	Leu	Ala	Lys	His	Leu	Leu	Ser	Gly	Leu	Gly	Asp	Arg	
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Leu	Cys	Arg	Leu	Leu	Arg	Lys	Glu	Arg	Glu	Ala	Leu	Ala	Trp	Ala	Gln	
				565					570					575		

Arg	Glu	Gly	Gln	Gly	Pro	Ala	Met	Thr	Glu	Asp	Ser	Pro	Gly	Ile	Pro			
			580					585					590					
His	Cys	Cys	Ser	Arg	Cys	His	His	Gly	Leu	Phe	Asn	Thr	His	Trp	Arg			
		595					600					605						
Cys	Ser	His	Cys	Ser	His	Arg	Leu	Cys	Val	Ala	Cys	Gly	Arg	Ile	Ala			
	610					615					620							
Gly	Ala	Gly	Lys	Asn	Arg	Glu	Lys	Thr	Gly	Ser	Gln	Glu	Gln	His	Thr			
625					630					635					640			
Asp	Asp	Cys	Ala	Gln	Glu	Ala	Gly	His	Ala	Ala	Cys	Ser	Leu	Ile	Leu			
				645					650					655				
Thr	Gln	Phe	Val	Ser	Ser	Gln	Ala	Leu	Ala	Glu	Leu	Ser	Thr	Val	Met			
			660					665					670					
His	Gln	Val	Trp	Ala	Lys	Phe	Asp	Ile	Arg	Gly	His	Cys	Phe	Cys	Gln			
		675					680					685						
Val	Asp	Ala	Arg	Val	Trp	Ala	Pro	Gly	Asp	Gly	Gly	Gln	Gln	Lys	Glu			
	690					695					700							
Pro	Thr	Glu	Lys	Thr	Pro	Pro	Thr	Pro	Gln	Pro	Ser	Cys	Asn	Gly	Asp			
705					710				715						720			
Ser	Asn	Arg	Thr	Lys	Asp	Ile	Lys	Glu	Glu	Thr	Pro	Asp	Ser	Thr	Glu			
				725				730						735				
Ser	Pro	Ala	Glu	Asp	Gly	Ala	Gly	Arg	Ser	Pro	Leu	Pro	Cys	Pro	Ser			
		740						745					750					
Leu	Cys	Glu	Leu	Leu	Ala	Ser	Thr	Ala	Val	Lys	Leu	Cys	Leu	Gly	His			
		755					760					765						
Asp	Arg	Ile	His	Met	Ala	Phe	Ala	Pro	Val	Thr	Pro	Ala	Leu	Pro	Ser			
	770					775					780							
Asp	Asp	Arg	Ile	Thr	Asn	Ile	Leu	Asp	Ser	Ile	Ile	Ala	Gln	Val	Val			
785					790					795					800			
Glu	Arg	Lys	Ile	Gln	Glu	Lys	Ala	Leu	Gly	Pro	Gly	Leu	Arg	Ala	Gly			
				805					810					815				
Ser	Gly	Leu	Arg	Lys	Gly	Leu	Ser	Leu	Pro	Leu	Ser	Pro	Val	Arg	Thr			
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 Gly Phe Ser His Pro Glu Thr Arg Pro Lys Leu Asp Glu Gly Ser Val
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 Leu Leu Leu His Arg Thr Leu Gly Asp Lys Asp Ala Ser Arg Val Gln
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 Lys Leu Asn Leu Ala Ser Tyr Leu Pro Leu Gly Leu Thr Leu His Pro
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 Leu Glu Pro Gln Leu Trp Ala Ala Tyr Gly Val Asn Ser His Arg Gly
 980 985 990
 His Leu Gly Thr Lys Asn Leu Cys Val Glu Val Ser Asp Leu Ile Ser
 995 1000 1005
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 Gln Gly Leu Val Ser Thr Ile Ser Val Thr Gln His Phe Leu Ser Pro
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